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| 09/732,087 | 12/06/2000 | Daniel J. Miller | MSI-634US | 3093 |

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EXAMINER

ZHEN, LI B

| ART UNIT | PAPER NUMBER |
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2126

DATE MAILED: 04/06/2004

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/732,087

Applicant(s)

MILLER ET AL

Examiner

Li B. Zhen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5-8.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

1. Claims 1 – 34 are pending in the application.

Specification

2. Applicant provided a list of co-pending applications [p. 8, line 7 – p. 9, lines 12]. These are not checked. Applicant is invited to inform the examiner if any of the co-pending applications are particularly relevant to/conflicting with the current application. Applicant is required to maintain a clear line of demarcation between applications. See MPEP § 822.
3. The applicant recites a number of references by the attorney docket numbers [p. 8, line 7 – p. 9, line 12]. Please update the docket numbers into U.S. application serial numbers.

Claim Rejections - 35 USC § 101

4. Claims 17 – 28 are rejected under 35 U.S.C. 101 because they are directed to non-statutory subject matter.
5. Claims 17 – 28 are directed to method steps, which can be practiced mentally in conjunction with pen and paper, therefore they are directed to non-statutory subject matter. Specifically, as claimed, it is uncertain what performs each of the claimed method steps. Moreover, each of the claimed steps, inter alia, identifying, loading, unloading, removing and implementing, can be practiced mentally in conjunctions with pen and paper. The claimed steps do not define a machine or computer implemented process [see MPEP 2106]. Therefore, the claimed invention is directed to non-statutory

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subject matter. (The examiner suggests applicant to change "method" to "computer implemented methods" in the preamble to overcome the outstanding 35 U.S.C. 101 rejection).

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1 – 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

i. Claims 1 – 34 recite the limitations "the next M seconds," "the next N seconds," "threshold, T," and "maximum allowable threshold, V," but do not specify a reasonable range for the variables M, N, T and V. It appears M, N, T and V should not be less than or equal to zero.

ii. Claims 29 – 30 are indefinite because it is unclear whether these are storage medium, computer system, or method claims because they depend on a method claim.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1 – 10, 12 – 18, 20 – 25 and 27 – 34 are rejected under 35

U.S.C. 102(b) as being anticipated by U.S. Patent NO. 5,913,038 to Griffiths.

10. As to claim 1, Griffiths teaches a system comprising: a plurality of sources [source file 38 containing multimedia data, Fig. 1; col. 8, lines 15 – 26] and an interface [set of OLE Component Object Model (COM) interfaces 204 to allow communications between the filter graph and the application program 37A, Fig. 2; col. 10, lines 33 – 46], selectively coupled [selecting a suitable reader filter to read the source file, filters can be selected, loaded, and connected in successive fashion; col. 13, lines 1 – 10] to the plurality of sources [a direct call to the interfaces 204 to control the media stream; col. 10, lines 34 – 46], to generate and implement a development project of processing chains [filter graph 203, typically comprises a linked collection of filter components of different types; col. 10, lines 45 – 66], wherein the interface loads a processing chain for each of the plurality of media sources at a point during the execution of the project when the chain is required [To render a source file...the filter graph manager 202 builds a filter graph comprising connected filter components...filter graph manager 202 first examines the source file 216 to determine the file type and the type(s) of data stored in the source file...Based on the media type and the location of the file (local or remote storage medium), the filter graph manager can select an appropriate file reader filter...filter graph manager 220 then instructs a file loader to load the file reader filter; col. 13, line 29 – col. 14, line 15], and wherein the interface is configured to unload at least a subset

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of the chains when they are not required [the "YES" branch is followed to step 726 and the selected filter is unloaded; col. 21, lines 1 – 10].

11. As to claim 2, Griffiths teaches the interface is a render engine exposed to a media processing system implemented on a computing system [multimedia filter graph module (MFG module), also known as a filter graph manager, allows users to play multimedia, such as digital movies encoded using the MPEG digital video compression standard, on a computer system; col. 6, lines 5 – 30].

12. As to claim 3, Griffiths teaches an application program [application program 37A], coupled to the interface [interfaces 204], to enable a user to define a media processing project [the application program 37A, can make a direct call to the interfaces 204 to control the media stream or to retrieve filter events; col. 10, lines 34 – 45].

13. As to claim 4 (note the 35 USC 112, second paragraph rejection above), Griffiths teaches the interface only loads those processing chains required during the next M seconds of project execution [At recursion Level 1, the transform filter 806 is located, loaded, and connected to the first output of the splitter filter 804; col. 23, line 34 – col. 24, line 67] if the currently loaded chain-count does not exceed a threshold T [recursion count is less than a predetermined threshold, a search is conducted to locate an available filter; col. 23, lines 3 – 19]. Examiner notes the limitation "next M seconds" does not define a specific range and is very broad. Examiner interprets "next M

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seconds” as the amount of time required to execute each recursion level of the Griffiths reference. Griffiths loads only the required filter at each recursion level [see col. 23, line 34 – col. 24, line 67].

14. As to claim 5, Griffiths teaches M is less than a time required to load a processing chain [At recursion Level 1, the transform filter 806 is located, loaded, and connected to the first output of the splitter filter 804; col. 23, line 34 – col. 24, line 67]. Examiner interprets “next M seconds” as the amount of time required to execute each recursion level of the Griffiths reference [see claim 4 above]. Since M seconds is the amount of time required to execute each recursion level and each recursion level loads a part of the processing chain, then M is less than the time required to load the entire processing chain.

15. As to claim 6, Griffiths teaches if the currently loaded chain-count has reached a threshold, T, [chain already includes the predetermined number of maximum filters] the interface identifies one or more currently loaded chains that can be unloaded [If the chain already includes the predetermined number of maximum filters and has not yet reached a termination point...then this filter is rejected and another search of the table is conducted to find a replacement filter...If a match is not found, then the last filter in the chain is disconnected (and typically eventually unloaded); col. 3, lines 39 - 60].

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16. As to claim 7 (note the 35 USC 112, second paragraph rejection above), Griffiths teaches the interface identifies one or more currently loaded chains [present filter] that will not be used during the next N seconds to unload [If a match is not found, then the filter graph manager 202 coordinates disconnecting (and typically unloading) the present filter and completes another search of the table to locate a replacement filter; col. 14, lines 13 - 29]. Examiner notes the limitation "next N seconds" does not define a specific range and is very broad. Examiner interprets "next N seconds" as the amount of time remaining to complete construction the filter graph of the Griffiths reference. Griffiths teaches unloading a present filter if a matching filter is not found to connect to the present filter [col. 14, lines 13 – 29]. Since the unloaded filter will not be used as part of the filter graph, it will not be used for the "next N seconds."

17. As to claim 8, Griffiths teaches M [amount of time required to execute each recursion level, see claim 4] is less than N [amount of time remaining to complete construction the filter graph, see claim 7].

18. As to claim 9, Griffiths teaches the interface determines whether the identified one or more chains will be required during subsequent execution of the project or in a future project [if the filter graph manager 202 operates to load a particular filter, and this filter fails to connect to another filter in the chain, then, rather than unloading that filter, it is kept in memory storage and placed on the list of spare filters. If the filter graph manager 202 subsequently selects a filter of that type for another part of the graph,

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then, rather than reloading it, this filter is used in response to information stored in the Spares list; col. 14, lines 39 – 50] and, if so caches the identified chain(s) ["Spares list" is maintained in memory to track all previously loaded but rejected filters; col. 14, lines 39 – 50].

19. As to claim 10, Griffiths teaches the interface determines whether unloading of the identified one or more chains reduces the chain-count below a maximum allowable threshold, V, and, if so, loads the chains required in the next M seconds [In the event that the recursion count is less than or equal to the predetermined threshold, then the "NO" branch is followed from step 704 to step 708. In step 708, a search is conducted to locate a filter that may accept the selected output as an input; col. 20, lines 15 – 46]. As to the limitation "the next M seconds," see the rejection to claim 4 above.

20. As to claim 12, Griffiths teaches the interface removes the identified chains from the active project and caches the removed chains ["Spares list" is maintained in memory to track all previously loaded but rejected filters; col. 14, lines 39 – 50].

21. As to claim 13, this is rejected for the same reasons as claim 4 above.

22. As to claim 14, Griffiths teaches the interface unloads a chain when all matrix switch filter(s) of the filter graph provide an indication that the chain is no longer

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required [At the end of the entire operation, any filters still on the Spares list are discarded and thereby unloaded; col. 21, lines 9 – 32].

23. As to claims 15 and 16 (note the 35 USC 112, second paragraph rejection above), Griffiths teaches setting T equal to one, the interface will be required to search for and potentially unload chains which are not required to support execution of the project for the next N seconds [If a match is not found, then the filter graph manager 202 coordinates disconnecting (and typically unloading) the present filter and completes another search of the table to locate a replacement filter; col. 14, lines 13 - 29]. As to the limitation "the next N seconds," see the rejection to claim 7 above.

24. As to claim 17 (note the 35 USC 112, second paragraph rejection above), Griffiths teaches a method for generating and managing a development project [embodiment of the present invention is represented by Microsoft's "ACTIVE MOVIE" Software Development Kit; col. 5, line 60 – col. 6, line 5], the method comprising:

identifying processing chains required to support execution of the development project over the next M seconds [At recursion Level 1, the transform filter 806 is located, loaded, and connected to the first output of the splitter filter 804; col. 23, line 34 – col. 24, line 67]; and

loading the identified processing chains as long as a currently loaded chain-count does not exceed an initial threshold, T [recursion count is less than a predetermined threshold, a search is conducted to locate an available filter; col. 23, lines 3 – 19].

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Examiner notes the limitation "next M seconds" does not define a specific range and is very broad. Examiner interprets "next M seconds" as the amount of time required to execute each recursion level of the Griffiths reference. Griffiths loads only the required filter at each recursion level [see col. 23, line 34 – col. 24, line 67].

25. As to claim 18, this is rejected for the same reasons as claim 7 above.

26. As to claim 20, this is rejected for the same reasons as claim 9 above.

27. As to claim 21, Griffiths teaches T is set to one such that an implementing an media processing system always attempts to unload unused chains prior to loading chains [If a match is not found, then the filter graph manager 202 coordinates disconnecting (and typically unloading) the present filter and completes another search of the table to locate a replacement filter; col. 14, lines 13 - 29].

28. As to claim 22, Griffiths teaches identifying each of a plurality of sources [source file 38 containing multimedia data, Fig. 1; col. 8, lines 15 – 26] required to satisfy the media processing project;

determining when one or more chain(s) [selecting a suitable reader filter to read the source file, filters can be selected, loaded, and connected in successive fashion; col. 13, lines 1 – 10] associated with each of the plurality of sources [filter graph 203, typically comprises a linked collection of filter components of different types; col. 10,

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lines 45 – 66] is required to support execution of the media processing project [a direct call to the interfaces 204 to control the media stream; col. 10, lines 34 – 46]; and

selectively loading [load the file reader filter] and unloading [the "YES" branch is followed to step 726 and the selected filter is unloaded; col. 21, lines 1 – 10] each of the chains during execution of the filter graph based, at least in part, on when each of the chains are required to support execution of the media processing project [To render a source file...the filter graph manager 202 builds a filter graph comprising connected filter components...filter graph manager 202 first examines the source file 216 to determine the file type and the type(s) of data stored in the source file...Based on the media type and the location of the file (local or remote storage medium), the filter graph manager can select an appropriate file reader filter...filter graph manager 220 then instructs a file loader to load the file reader filter; col. 13, line 29 – col. 14, line 15].

29. As to claim 23, this is rejected for the same reasons as claims 17 above.

30. As to claim 24 (note the 35 USC 112, second paragraph rejection above), Griffiths teaches identifying one or more processing chains [present filter] that will not be required in the next N seconds [If a match is not found, then the filter graph manager 202 coordinates disconnecting (and typically unloading) the present filter and completes another search of the table to locate a replacement filter; col. 14, lines 13 – 29] if the chain-count threshold T has been reached [If the chain already includes the predetermined number of maximum filters and has not yet reached a termination

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point...then this filter is rejected and another search of the table is conducted to find a replacement filter; col. 3, lines 39 - 60]; and

removing the identified one or more processing chains from the processing project [If a match is not found, then the last filter in the chain is disconnected (and typically eventually unloaded); col. 3, lines 39 – 60]. Note the rejection to claim 7 above with regards to the examiner's interpretation of the limitation "next N seconds."

31. As to claim 25, this is rejected for the same reasons as claim 9 above.

32. As to claim 27, Griffiths teaches V [limit of the number of filters in a chain length can be set, typically a maximum threshold of five filters; col. 3, lines 40 – 60] is greater than T [recursion counter; col. 20, lines 15 – 46].

33. As to claim 28, this is rejected for the same reason as claim 15 above.

34. As to claim 29, Griffiths teaches a storage medium comprising a plurality of executable instructions which, when executed, implement a method according to claim 22 [instructions for building that graph are stored in memory for possible subsequent use to construct the filter graph; col. 5, lines 8 – 26].

35. As to claim 30, Griffiths teaches a storage medium having stored therein a plurality of executable instructions [instructions for building that graph are stored in

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memory for possible subsequent use to construct the filter graph; col. 5, lines 8 – 26];
and

an execution unit [processor], coupled to the storage medium, to execute at least a subset of the plurality of executable instructions to implement a method according to claim 22 [processes and operations performed by the computer include the manipulation of signals by a processor and the maintenance of these signals within data sets or data structures resident in one or more memory storage devices; col. 6, lines 43 – 67].

36. As to claim 31, this is a product claim that corresponds to method claim 17; note the rejection to claim 17 above, which also meets this product claim.

37. As to claim 32 – 34, these are rejected for the same reasons as claims 18, 16 and 9 respectively, note the rejections to claims 18, 16 and 9 above.

Claim Rejections - 35 USC § 103

38. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

39. **Claims 11, 19 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Griffiths in view of U.S. Patent NO. 5,790,935 to Payton.**

40. As to claim 11, Griffiths teaches unloading processing chain(s) [If the chain already includes the predetermined number of maximum filters and has not yet reached a termination point...then this filter is rejected and another search of the table is conducted to find a replacement filter...If a match is not found, then the last filter in the chain is disconnected (and typically eventually unloaded); col. 3, lines 39 - 60], but does not specifically teach unloading low priority chains.

41. However, Payton teaches a multimedia system [virtual on-demand digital information delivery system; col. 5, lines 60 – 67] that unloads low priority chains [filter deletes the lowest priority item from storage (step 140) and determines whether there is enough storage for the new item (step 142). If not, the filter returns to step 140 and deletes the next lowest priority item; col. 8, lines 25 – 50].

42. It would have been obvious to a person of ordinary skill in the art at the time of the invention to apply the teaching of unloading low priority chains as taught by Payton to the invention of Griffiths because this provides a scheduling policy that allows higher priority chains to execute before lower priority chains.

43. As to claims 19 and 26, Griffiths as modified teaches determining whether the chain-count has dropped below a maximum allowable chain-count, V, after removing the identified chains from the development project [In the event that the recursion count is less than or equal to the predetermined threshold, then the "NO" branch is followed

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from step 704 to step 708. In step 708, a search is conducted to locate a filter that may accept the selected output as an input; col. 20, lines 15 – 46 of Griffiths];

identifying one or more low priority chains and removing them from the development project [filter deletes the lowest priority item from storage (step 140) and determines whether there is enough storage for the new item (step 142). If not, the filter returns to step 140 and deletes the next lowest priority item; col. 8, lines 25 – 50 of Payton]; and

loading the chains required in the next M seconds [In step 708, a search is conducted to locate a filter that may accept the selected output as an input; col. 20, lines 15 – 46 of Griffiths]. As to the limitation “the next M seconds,” see the rejection to claim 4 above.

Conclusion

44. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent NO. 6,502,137 to Peterson teaches a method form transferring information over a computer network.

U.S. Patent NO. 6,581,102 to Amini teaches isochronous processing algorithms in general media processing systems.

U.S. Patent NO. 6,683,696 to Urie teaches filter based data imaging method for an image forming device.

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45. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Li B. Zhen whose telephone number is (703) 305-3406. The examiner can normally be reached on Mon - Fri, 8:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (703) 305-9678. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Li B. Zhen
Examiner
Art Unit 2126

lbz
April 1, 2004


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